

TERRAMODEL NOTE 7

Planimetric Maps

Objective--

The objective of this TM Note is to show examples of using TERRAMODEL CAD features to develop a planimetric map (or site map). Examples include adding several linetypes and symbols. Labels will be used to ease the job of drawing planimetric features.

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TERRAMODEL Note 7—Planimetric Maps

Note: Adding text, scales, and north arrows are covered in **TM Note 8—Preparing Drawings**.

A planimetric or site map can be developed from a contour map by adding features such as the centerline, fencelines, buildings, flowlines, and reference points. This TM Note will illustrate the following:

1. Changing the linetype of the existing centerline
2. Listing the coded survey points for the project
3. Adding a fenceline
4. Adding a barn and a corral
5. Adding a benchmark symbol
6. Adding flowlines (from existing BLs)

Begin this tutorial with a contour map that has been developed in TERRAMODEL. If you do not have a current project, use the file **tmnote7.pro**, which was provided with this note. Open the TERRAMODEL program; then open the project **tmnote7.pro**.

Once the project is open, save the project as a different file name so that the original file can be used at a later time.

1. Change the linetype of the existing centerline

Start by turning on your centerline for the project.

[Settings] – [Layer settings...]
Highlight **CL**
✓ Visible
[OK]

The centerline shows up as a solid line. Change the linetype so that centerline can be distinguished from other plotted lines.

[Modify] – [Linetype]
Objs: [] select the centerline
New linetype: **CENTERLINE (CL)**
[OK]

Notice the centerline changed and it appears to have small boxes on it. Window in to see what it looks like:

[View] – [Zoom]
From: [] select first corner
To: [] select second corner

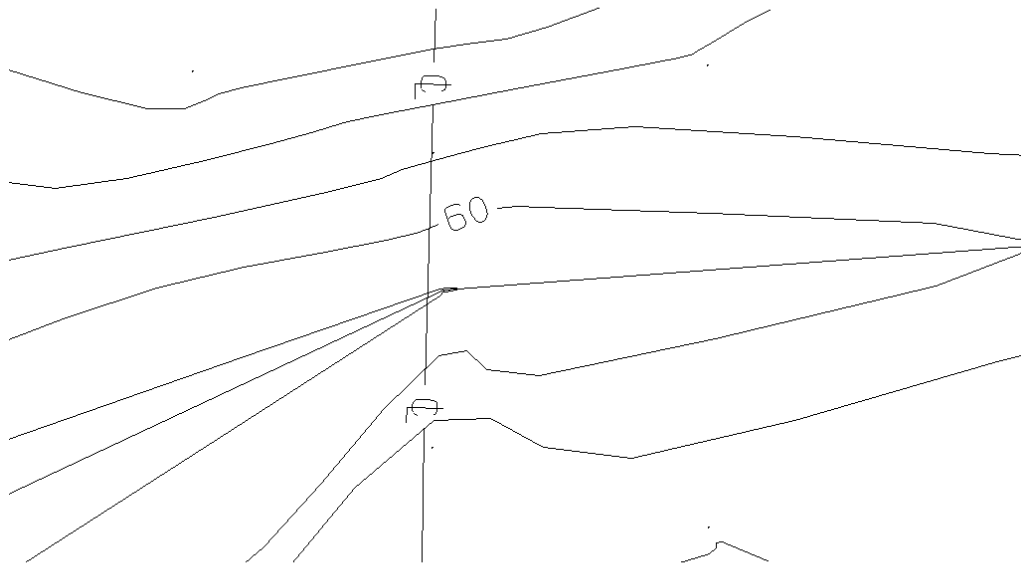


Figure 7-1

2. List the coded survey points for the project

List the points to see what additional features were surveyed and coded.

[Reports] – [List]

[Points]

Select points: [] (right-click)-**Layer**
(select-button) **POINTS**

[OK]

[List]

NOTE: In this note, the select-button is defined as the button to the right of the select method (the word “Layer” in this case) that has a solid black dot inside a square.

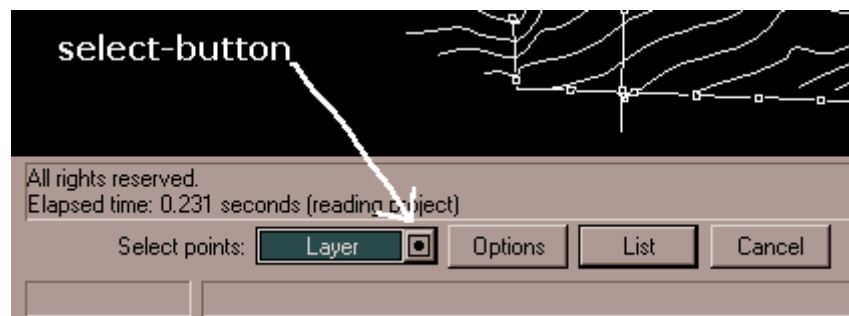


Figure 7-2

The survey data points are listed on the screen in the Document – P3 Pad, including the coordinates, elevation, point number, and point name. (Other information can be added to this output by changing the selection in [Options].)

Point Coordinates Listing					
Point	North	East	Elev	Layer	Name
2	293.55	209.60	66.95	POINTS	
3	33.75	246.42	73.25	POINTS c1	
4	178.02	255.03	64.25	POINTS c1	
5	218.40	257.69	62.83	POINTS c1	
6	307.61	257.68	67.75	POINTS c1	
7	99.77	252.89	68.95	POINTS c1	
8	402.75	260.74	75.85	POINTS c1	
9	277.17	257.85	62.25	POINTS c1	
10	397.32	753.90	81.75	POINTS WC BARN	
11	423.17	774.93	81.75	POINTS NC BARN	
12	324.97	834.18	81.75	POINTS CC WN	
13	333.74	748.90	81.75	POINTS CC NE	
14	93.52	194.01	66.75	POINTS	
15	156.53	194.48	61.67	POINTS	
16	250.39	159.09	61.54	POINTS fence	
17	401.54	150.45	75.95	POINTS fence	

Figure 7-3

You can see from the list that there is a fence, a barn, and a corral. Notice that Point 1 is not listed. Point 1 was moved to the BM layer in TM Note 4.

NOTE: Some of the names are in upper case and some are in lower case. TERRAMODEL is case sensitive!

HINT: Use the wildcard (*) before and after a subset of the survey point names to find all points with names containing the subset. For example, type *cl* to find all points with a name containing cl or *BARN* to find all points with a name containing BARN.

[File] – [Close] on the Document – P3 Pad window.

[Close] on the command line.

3. Add a fenceline and change its linetype

Use the labels to help find the location of the fencelines.

First, view all of the project again:

[View] – [All]

The fenceline shots are coded with “fence”. Turn on the labels for the fences. Since the point labels are attribute text (not objects), they will not be visible unless the objects they describe are visible.

[Draft] – [Label points with text...]

Pts: *(right click)*-**Name**

(select-button) Mask: ***fence***

[OK]

[Settings]

✓ Elev. whole part, Elev. fractional part, Description, and Symbol

[OK]

[Label]

Window in to get a closer look at the points on the fenceline:

[View] – [Zoom]

From: ☐ select first corner

To: ☐ select second corner

[View] – [Previous view]

Before you draw the fenceline, make a new layer called FENCE.

HINT: Select the same colors for the fence as you used for the centerline layer. By carefully naming your layers and choosing the colors for the layers, you have another method for selecting your objects for your finished drawings. Having all the field

features the same color will allow you to edit all the features at one time by selecting by color, yet you can still manipulate the features individually by layer.

[Settings] – [Layer settings...]
[New...]
Name: **FENCE**
Color: **11**
Pt color: **5**
Line type: **FENCE (X) LINE**
[OK]

Make the new FENCE layer the selected layer.

Now draw a polyline connecting all your fenceline shots:

[Draw] – Pline – [Line]
Loc: [] select a point on fenceline
Loc: [] select another fenceline point
.
.
.
Loc: [] select the last fenceline point
{ESC}

HINT: Use the display commands (window, all, magnify, previous, recenter, etc.) to view areas of your project as you draw your fenceline, if necessary.

View the entire project:

[View] – [All]

Again, window in to see what it looks like:

[View] – [Zoom]
From: [] select first corner
To: [] select second corner

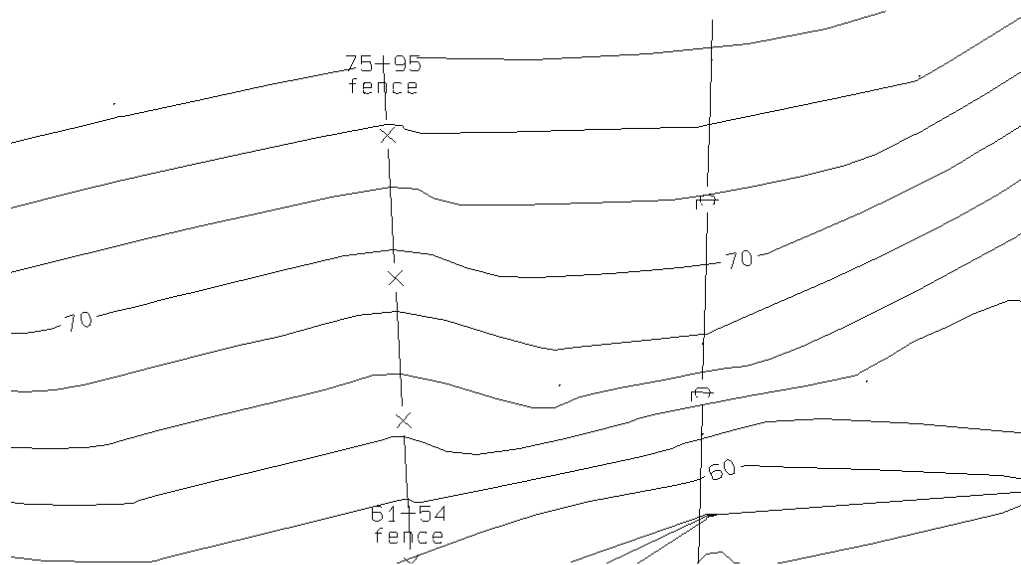


Figure 7-4

4. Add a barn and corral

Next add the barn and corral to your map. Again, use the labels to help you find the location of your features.

First, view all of the project again:

[View] – [All]

HINT: In order to isolate the barn and corral labels, you must turn off all labels first, then turn on label for the desired points.

[Draft] – [Label points with text...]

Pts: (right click)-**Layer**

(select-button) **POINTS**

[OK]

[Settings]

Remove all ✓s

[OK]

[Label]

The barn shots were coded with “xx BARN”; the corral corner shots with “CC xx”. Turn on the labels for these two sets of points.

[Draft] – [Label points with text...]

Pts: (right click)-**Name**

(select-button) Mask: ***BARN***

[OK]
(select-button) Mask: *CC*
[OK]
[Settings]
✓ Elev. whole part, Elev. fractional part, Description, and Symbol
[OK]
[Label]

Window in to get a closer look at these points:

[View] – [Zoom]
From: [] select first corner
To: [] select second corner

Before you draw the barn and corral, make a new layer called BARN.

[Settings] – [Layer settings...]
[New...]
Name: **BARN**
Color: **11**
Pt color: **5**
Line type: **SOLID**
[OK]

Make the new BARN layer the selected layer.

Now draw a polyline connecting all the corral shots:

[Draw] – Pline – [Line]
Loc: [] select a point on corral
Loc: [] select another point
.
.
.
[Close pline] when you get to the last point to close the corral border
{ESC}

Now change the linetype:

[Modify] – [Linetype]
Objs: [] select the corral border
New linetype: **FENCE (X) LINE**
[OK]

Finally, draw the barn. Since there are only three shots to define the barn, connect the first three corners, then estimate the location of the fourth corner.

[Draw] – Pline – [Line]
Loc: [] select the north barn corner
Loc: [] select the west barn corner
Loc: [] select the south barn corner

Loc: [] estimate and select the location of the east barn corner
[Close pline]
{ESC}

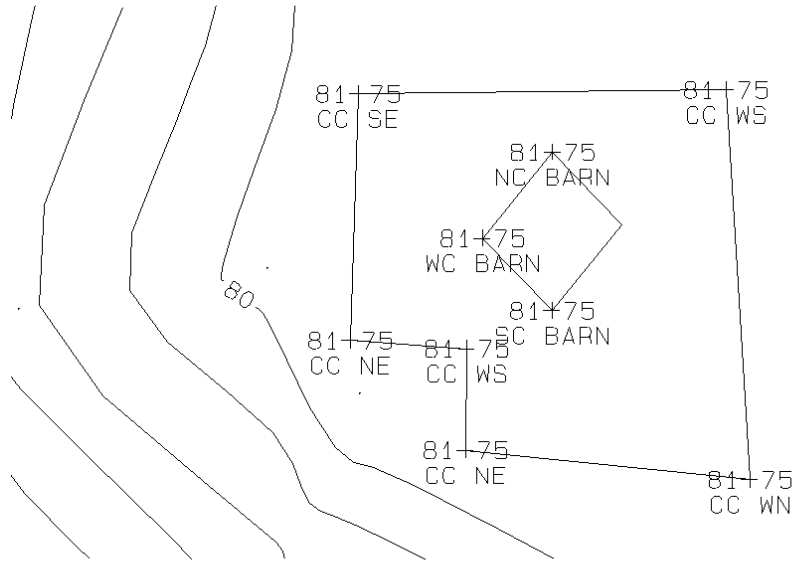


Figure 7-5

Leave the linetype for the barn as a solid line.

5. Add a benchmark symbol

Symbols can be added to your map. Add a symbol for the benchmark. View the entire project.

[View] – [All]

First turn off all labels:

[Draft] – [Label points with text...]

Pts: (right click)-**Layer**
(select-button) **POINTS**

[OK]

[Settings]

Remove all ✓s

[OK]

[Label]

Then label the benchmark with a symbol only.

[Draft] – [Label points with text...]

Pts: (right click)-Name
 (select-button) *bm*
 [OK]
 [Settings]
 ✓ Symbol
 [Edit]
 Symbol number: 46
 [OK]
 [OK]
 [Label]

Window in to see the point:

[View] – [Zoom]

NOTE: Symbol numbers for available symbols can be found in the Symbol Font File (Symbol.fnt).



Figure 7-6

6. Add flowlines (from existing BLs)

One additional feature that can be added is the flowlines in each of the draws.

HINT: Since the flowlines for this project are already defined by the breaklines, make a copy of the breaklines on a new layer called FL and change the linetype.

View the entire project and make a new FL layer:

[View] – [All]

[Settings] – [Layer settings...]

[New...]

Name: **FL**

Color: **11**

Pt color: **5**

Linetype: **FLOWLINE**

[OK]

[OK]

Make FL the selected layer.

Next copy just the breaklines from the POINTS layer to the FL layer.

HINT: Use the search settings to select only breaklines (Sets).

[Settings] – [Search settings...]

✓ Sets

☐ Points, Plines, etc; all other choices

[OK]

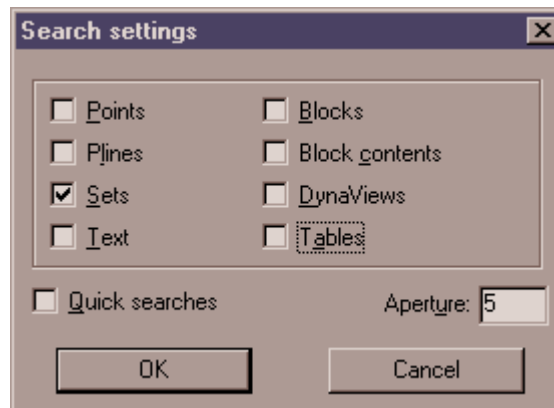


Figure 7-7

Now do the copy:

[Edit] – [Copy]

3d ☐

Lay ✓

Objs: [] select all flowline breaklines

From: & To: Do not put anything in the from/to boxes

[OK]

NOTE: By having the Layer box ✓ the objects chosen will be copied to the selected layer (the FL layer was selected previously in step 6).

Notice the color of the flowlines changed. This is because they are now on a different layer.

Don't forget to turn the search mode back on for all the objects!

[Settings] – [Search settings...]

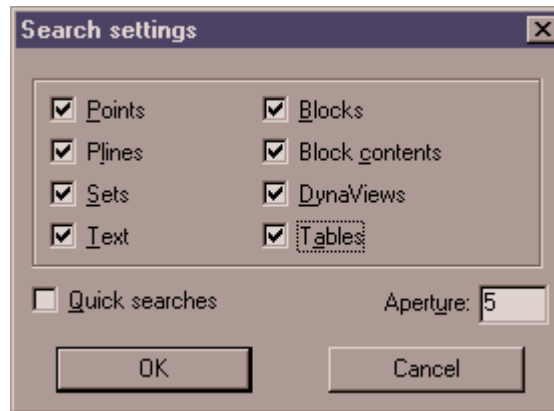


Figure7-8

[Settings] – [Layer settings...]

Highlight **POINTS**

☐ Visible; Remove the ✓

[OK]

Freshen the screen:

[View] – [Redraw]

Change the linetype:

[Modify] – [Linetype]

Objs: [] select the flowlines

New linetype: **FLOWLINE**

[OK]

Window in to get a closer look:

[View] – [Zoom]

From: [] select first corner

To: [] select second corner

View the finished planimetric map:

[View] – [All]

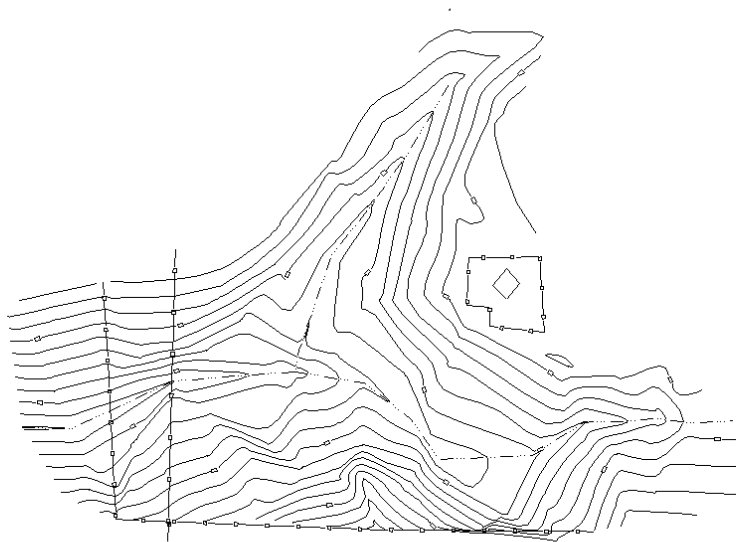


Figure 7-9

Don't forget to save your work!!

[File] – [Save project]

NOTE: If you have not already saved the file with a name other than TMNOTE7, use the SaveAs command instead of Save.

[File] – [Save project as...]